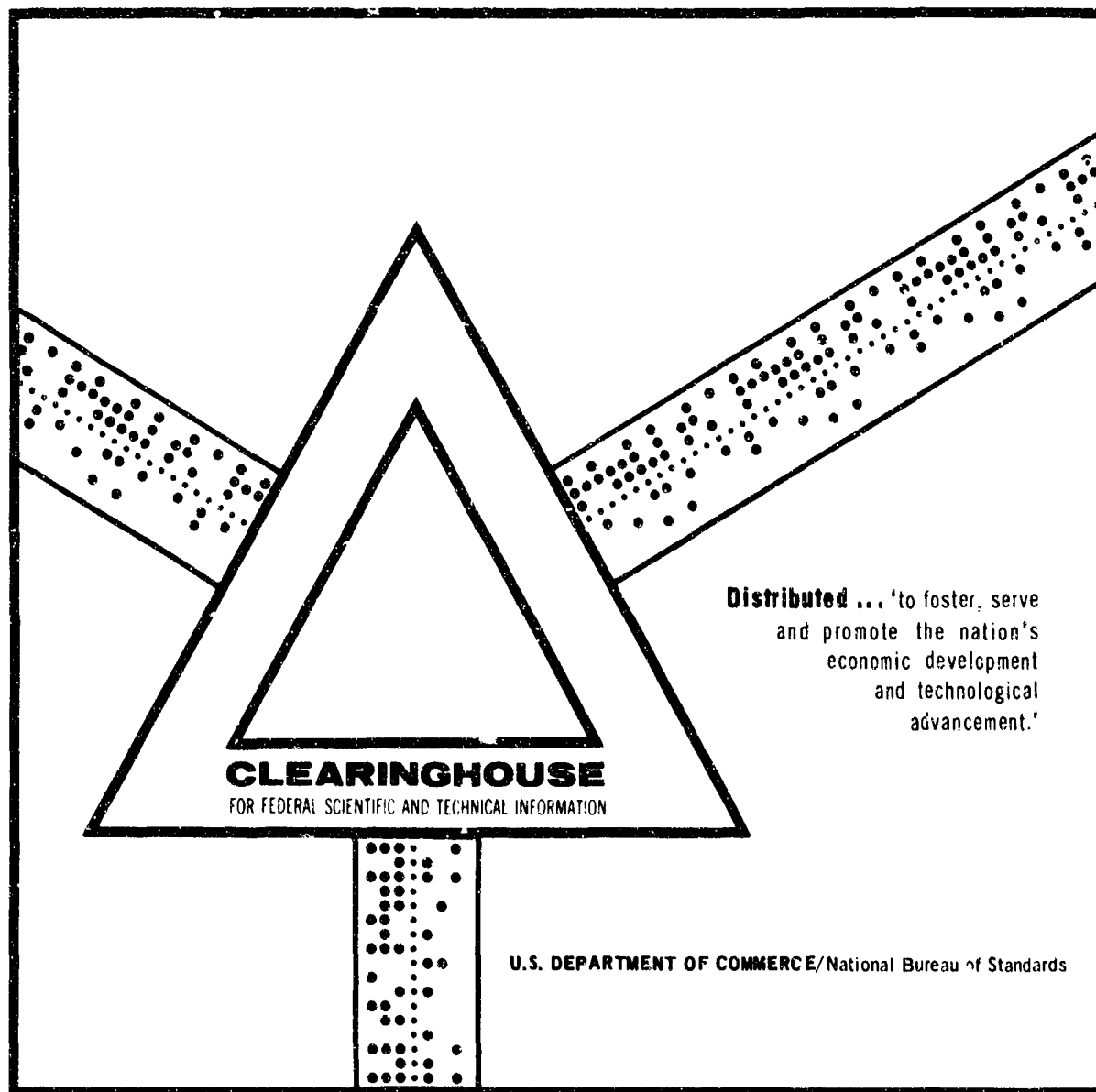


AD 701 348

ECTOPARASITE AND HOST COLLECTIONS. ECTO-
PARASITE IDENTIFICATIONS. HOST IDENTIFICA-
TIONS. COLLECTING LOCALITIES

Iowa State University
Ames, Iowa

1 February 1970

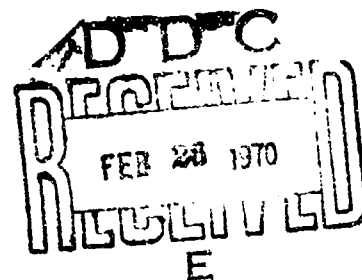


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1 February 1970

Program Director
Microbiology Branch
Department of the Navy
Office of Naval Research
Washington, D. C. 20360



SUBJECT: Contract Number N00014-68-A-0101-0001
(Third Year)

Progress Report 5: 1 September 1969 to 1 February 1970
(Semiannual Report for Grant Period)

This report deals with material collected or received from 1 September 1969 to the present. Identifications for all specimens are not available at this time. The report is therefore tentative.

1. ECTOPARASITE & HOST COLLECTIONS

Host collections for the period total 522. These were made from a number of areas in Nepal as well as Darjeeling. Localities and numbers of individuals are shown in table 1.

Table 1

Ectoparasite Collections (NP 2908 through NP 3430)

(note: Spelling for the following localities has not been completely standardized and should not be interpreted as final)

| | <u>Mites</u> | <u>Lice</u> | <u>Ticks</u> | <u>Fleas</u> | <u>Other</u> |
|-----------------------|--------------|-------------|--------------|--------------|--------------|
| Melumchi | 29 | 9 | 1199+ | 23 | |
| Mulkharka | | | 13 | | |
| Dhobadow | | | 37 | | |
| Uring Ghyang | | | many | 1 | |
| Riuthang | | | 46 | | |
| Jyalsha | | | many | | |
| Badamtam (Darjeeling) | | | 78 | | |
| Singasing | | | | 63 | |
| Dhukpu | 316+ | 343+ | 12 | 125 | 20 |
| Kildongphu | | | 2 | | |
| Nakohti | | | 58 | | |
| Sindrijel | 5 | | 2 | | 5 |
| Gokarna | 144+ | 16 | 371+ | 120 | 3 |
| Katmandu | | | | 8 | |
| Kakani | 16 | | 1 | 2 | |
| Godawari | | 18 | 5 | 1 | |
| Thodung | 1261+ | 355+ | 1490+ | 116 | 17 |
| Dhuppi Kharka | | 41 | 1 | | |

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Table 1 (cont'd.)

| | <u>Mites</u> | <u>Lice</u> | <u>Ticks</u> | <u>Fleas</u> | <u>Other</u> |
|-------------------|--------------|-------------|--------------|--------------|--------------|
| Banepa | | | 8 | 2 | |
| Tatow Paani | | | 65 | | |
| Namthan | | | 85 | | |
| Chetang | | | 3 | | |
| Lheasing Kharka | | | 203 | | |
| Namsangsang | 2 | 32 | 107 | 1 | 11 |
| Gosainkunda Range | many | 1 | 19 | | |
| Above Namsangsang | | 3 | 60 | 1 | 1 |
| Kaldapeh | 151+ | 97 | 19 | 100 | 2 |
| Nimadhomu | | | 1 | | |
| Manigayru | 24 | 15 | 2 | 10 | |
| Bulumchi | 2 | 3 | 6 | 10 | |
| Chobar Gorge | 6+ | | 18+ | 64 | 22 |
| Totals | 1956+ | 933+ | 3912+ | 647 | 81 |

II. ECTOPARASITE IDENTIFICATIONS

Identifications continue to accumulate for the various groups as specialists have time to identify them. Completeness of this information varies from group to group. In no case is the data complete to date. See previous reports for names of participating specialists. Due to personnel changes at the Bernice P. Bishop Museum in Honolulu, Hawaii, Dr. Frank Radovsky has replaced Dr. Russel Strandtmann as our consultant for Acarina.

III. HOST IDENTIFICATIONS

Hosts of ectoparasites fall into three categories: birds, humans, and domestic mammals and wild mammals. Accurate identifications for birds and domestic mammals are readily available, as are those for the larger game mammals. Major difficulties have been encountered in obtaining accurate determinations for the smaller mammals, especially insectivores and rodents. Mr. Mitchell recently spent a period at the Calcutta Museum comparing his collections with material housed there. Tentative identifications are thus available for most of the host animals. However, particularly difficult groups are presently under study by specialists and positive assignment of names must await their decision. In the interim it does not seem advisable to compile a list of tentative identifications.

During a recent visit to the Field Museum of Natural History the principal investigator was able to assign at least tentative identifications to many of the host mammals collected by Mr. C.O. Maser. A list of these identifications is being prepared for distribution to interested persons.

IV. COLLECTING LOCALITIES

Additional collecting localities have been visited since the gazetteer of 1 August 1968 was compiled. A revised gazetteer is presently in preparation.

V. FINANCES

Funds are adequate for the remainder of the grant period. An application will be prepared for an extension of the project without additional funds in anticipation that residual funds from this grant period can be carried over to support project-related activities after the field studies end in August.

VI. FUTURE PLANS

It is expected that this project will be terminated at the end of the present grant period. Until then the collector will make an effort to visit additional collecting localities as well as make various specialized collections from hosts such as bats and special microhabitats such as bat caves and bird nests. Collecting efforts from such places over the past six months have been exceedingly promising and will be continued.

After closing out the program in Nepal, probably in July, Mr. Mitchell and his wife will proceed to Cairo, Egypt, where he will work with Dr. Hoogstraal in clearing up some of the problems associated with standardization of collecting localities and other matters which cannot be satisfactorily dealt with by correspondence.

Mr. Mitchell has been accepted as a graduate student at Iowa State University and he expects to begin his studies toward the Ph.D. in September, 1970. The subject of his dissertation will be the mammal hosts which he has collected during his participation in the program.

VII. MISCELLANEOUS

During the period covered by this report Mr. DeVere Burt has been illustrating the species of fleas taken by the collector. At present he has completed plates for over half of the species and by the end of the grant period it is anticipated that all of the forms presently known to occur in Nepal will be completed.

VIII. PUBLICATIONS

Collections made during the past three years under support from Office of Naval Research, Department of the Navy, Projects No. N00014-68-A-0101-0001 to Iowa State University and No. N62558-5023, U.S. Navy European Research Contracts Program, Brussels, Belgium to the American University of

Beirut, Lebanon, have provided much new material. Following are publications, based on these collections, that have been published, are in press or in various stages of preparation.

Allred, D.M. Haemogamasid mites of Eastern Asia and the Western Pacific with a key to the species. J. Med. Ent. 6(2): 103-119. (1969)

Hoogstraal, H. & V. Dhanda. Haemaphysalis (H.) darjeeling sp. n., a member of the H. (H.) birmaniae group (Ixodoidea, Ixodidae) parasitizing large mammals in Himalayan forests of India. J. Parasit.

Kohls, G.M., C.M. Clifford and H. Hoogstraal. Ixodes (Scaphixodes) mittelli n. sp. (Acrina: Ixodidae), a tick parasitizing pheasants and partridges in high mountains in Nepal. J. med. Ent.

Lewis, R.E. A new genus and species of flea from Nepal (Siphonaptera: Ceratophyllidae). [Complete but being withheld until related but undescribed forms have been studied.]

A new Ancistropsylla Toumanoff and Fuller, 1947 from axis and barking deer in Nepal (Siphonaptera: Ancistropsyllidae). J. Parasit. 54(6): 1228-1232. (1968)

A new Stenischia Jordan, 1932 from the Sikkim large-clawed shrew (Siphonaptera: Hystrichopsyllidae). J. Parasit. 55(5): 872-876. (1969)

A new genus of bat flea from the Himalayas (Siphonaptera: Ischnopsyllidae). J. Parasit. 56(1): (1970)

New neopsylline fleas from Nepal (Neopsyllinae: Hystrichopsyllidae). J. Parasit.

Graub, R. Evansipsylla thysanota, a new genus, new species of flea from Nepal (Siphonaptera: Hystrichopsyllidae). J. med. Ent. 5(4): 411-421. (1968)

Additional papers are in preparation at NAMRU #3 for which titles are not presently available.

Respectfully submitted,

R. E. Lewis

Robert E. Lewis
Associate Professor of Entomology
Principal Investigator

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